

turns. The tensioner will automatically adjust. Retighten the adjust bolt and locknut.

6. If the cam chain is still noisy, remove the 14 mm cam chain tensioner sealing bolt (C, **Figure 66**). Use a screwdriver and gradually turn in the tensioner adjust screw (**Figure 67**) until the cam chain is no longer noisy. Install the sealing bolt.

NOTE

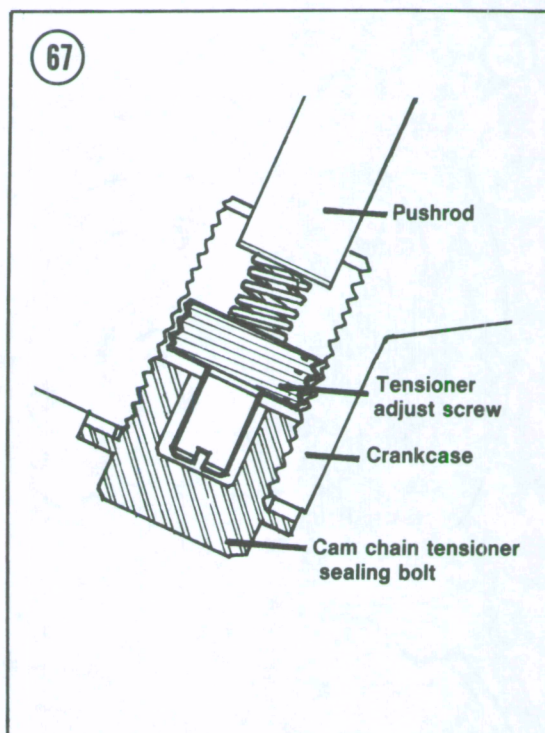
If the cam chain is still noisy after Step 6, there is a problem with the cam chain tensioner assembly. Remove the tensioner assembly and inspect it as described in Chapter Four.

COMPRESSION TEST

A compression test should be run every 30 operating days. Record the results and compare them with the readings at the next test interval. A running record will show trends in deterioration so that corrective action can be taken before complete failure occurs.

The results, when properly interpreted, can indicate general cylinder, piston ring and valve condition.

1. Place the ATC on level ground and set the parking brake or block the wheels so the vehicle will not roll in either direction.
2. Start the engine and let it reach normal operating temperature. Shut the engine off.



3. Fully open the throttle lever. Raise the choke lever or push the knob all the way down to the completely open position.

4. Disconnect the spark plug wire and remove the spark plug.

5. Connect a compression gauge to the cylinder following the manufacturer's instructions (**Figure 68**).

6. Operate the recoil starter several times and check the readings.

CAUTION

On models with a CDI ignition, do not turn the engine over more than absolutely necessary. When the spark plug lead is disconnected the electronic ignition will produce the highest voltage possible and the ignition coil may overheat and be damaged.

7. Remove the compression gauge and record the reading. The readings should be as follows:

- a. ATC70 and ATC90: 10-12 kg/cm² (142-170 psi).
- b. ATC110 and ATC125M: 11-14 kg/cm² (156-198 psi).

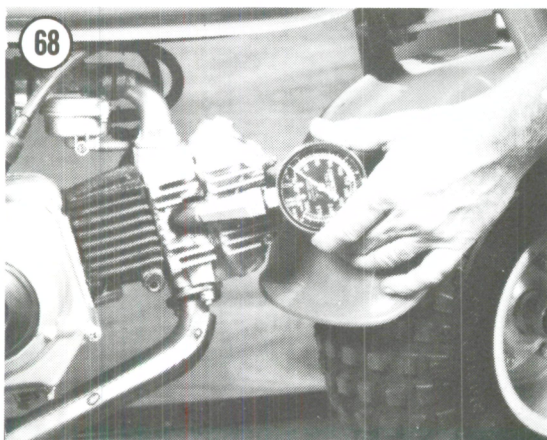
If the reading is higher than normal, there may be a buildup of carbon deposits in the combustion chamber or on the piston crown.

If a low reading is obtained it can be caused by one or more of the following faulty items:

- a. A leaking cylinder head gasket.
- b. Incorrect valve clearance.
- c. Valve leakage (burned valve face).
- d. Worn or broken piston rings.

If the head gasket is okay, perform a wet test to determine which other component is faulty. Pour about one teaspoon of engine oil through the spark plug hole onto the top of the piston. Turn the engine over once to clear the oil, then take another compression reading. If the compression increases significantly, the valves are good but the piston rings are defective. If compression does not increase, the valves require servicing. A valve could be hanging open but not burned or a piece of carbon could be on a valve seat.

Install the spark plug and connect the spark plug lead.



SPARK PLUG

Selection

Spark plugs are available in various heat ranges, hotter or colder than the plugs originally installed at the factory.

Select a plug of the heat range designed for the loads and conditions under which the ATC will be run. Use of incorrect heat ranges can cause a seized piston, scored cylinder wall or a damaged piston crown.

In general, use a hot plug for low speeds and low temperatures. Use a cold plug for high speeds, high engine loads and high temperatures. The plug should operate hot enough to burn off unwanted deposits, but not so hot that it is damaged or causes preignition. A spark plug of the correct heat range will show a light tan color on the portion of the insulator within the cylinder after the plug has been in service.

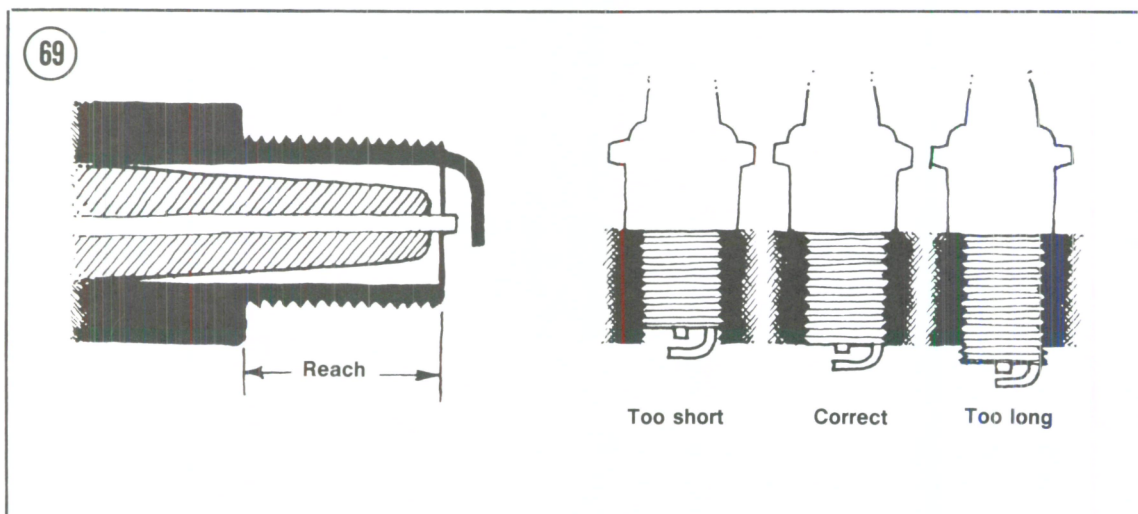
The reach (length) of a plug is also important. A longer than normal plug could interfere with the piston, causing permanent and severe damage; refer to Figure 69. Refer to Table 5 for recommended spark plug types.

Removal and Cleaning

1. Grasp the spark plug lead as near the plug as possible and pull it off the plug. If it is stuck to the plug, twist it slightly to break it loose.
2. Blow away any dirt that has accumulated in the spark plug well.

CAUTION

The dirt could fall into the cylinder when the plug is removed, causing serious engine damage.



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